the upper surface of the image sensing area **13**. The image sensing area **13** is comprised of a plurality of pixels made of photodiodes and the micro-lenses **16** are formed over the individual pixels on a one-by-one basis. The electrode portions **15** are for connecting each of the semiconductor image sensing elements **10** to external equipment after the completion thereof and connection is provided by using metal thin wires or bumps.

[**0069**] Referring to FIGS. **3**A to **3**D, a description will be given to the process steps of bonding the optical members **18** by using the semiconductor wafer **24** thus formed with the semiconductor elements **11** and finally processing the semiconductor wafer **24** into the individual semiconductor image sensing elements **10**. FIGS. **3**A to **3**D are cross-sectional views for illustrating the main process steps after the optical members **18** are bonded over the respective image sensing areas **13** of the individual semiconductor elements **11** on the semiconductor wafer **24** till the semiconductor wafer **24** is processed into the separate individual semiconductor image sensing elements **10**. The optical members **18** are bonded over the respective image sensing areas **13** of the individual semiconductor elements **11** in the state of the semiconductor wafer **24** and the semiconductor elements **11** that have been determined to be acceptable in an image test and an electric property test are bonded.

[**0070**] First, as shown in FIG. **3**A, the semiconductor wafer **24** having a principal surface on which the semiconductor elements **11** before the optical members **18** are bonded thereto are formed with a given arrangement pitch is prepared. Although FIG. **3**A illustrates the bonding step by using one of the semiconductor elements **11**, the operation is actually performed with respect to the plurality of semiconductor elements **11** formed on the semiconductor wafer. The thickness of the semiconductor wafer **24** is preferably in the range of 150 μm to 1000 μm, more preferably in the range of about 300 μm to 500 μm. At the same time, the optical member **18** having the light shielding film **19** preliminarily formed on the side surface region thereof by using a metal or resin having a light shielding property and a configuration covering at least the image sensing area **13** is prepared, as shown in FIG. **3**B. The thickness of the optical member **18** is preferably in the range of 150 μm to 500 μm, more preferably in the range of about 200 μm to 400 μm.

[**0071**] Next, as shown in FIG. **3**C, the transparent bonding member **20** of UV setting type is coated to cover the micro-lenses **16** on the image sensing area **13** of each of the semiconductor elements **11** and also partly cover the periphery thereof. The transparent bonding member **20** can be coated by a drawing method, a printing method, a stamping method, or the like.

[**0072**] Next, as shown in FIG. **3**D, the optical member **18** is aligned to overlie the image sensing area **13** over which the transparent bonding member **20** has been coated. Thereafter, the upper surface of the optical member **18** is pressed from thereover, while the parallelism of the upper surface of the optical member **18** to the surface with the image sensing area **13** is maintained. Then, a UV light beam at a wavelength which cures the transparent bonding member **20** is emitted toward the optical member **18** for irradiation, as indicated by the arrows. As a result, the optical member **18** is bonded to the image sensing area **13** via the transparent bonding member **20** and the semiconductor image sensing element **10** having the optical member **18** bonded over the semiconductor element **11** is obtained.

[**0073**] Finally, the semiconductor wafer **24** is diced along the dicing lanes between the semiconductor sensing elements **10** so that the separate individual semiconductor image sensing elements **10** shown in FIG. **1** are obtainable.

[**0074**] Such a method allows easy fabrication of the semiconductor image sensing element **10** in which optical noise can be prevented by merely bonding the optical member **18** having the light shielding film **19** formed on the side surface region thereof. Since the method also allows the semiconductor image sensing elements **10** to be processed in the state of the semiconductor wafer **24**, the micro-lenses **16** on the image sensing areas **13** are prevented from being damaged during the processing and the lowering of an yield due to dust particles and the like can also be suppressed. It is also possible to preliminarily cover the surface of each of the optical members **18** with a resin coating or the like, perform the processing with respect thereto, and then removing the resin coating after mounting. The arrangement prevents the surface of the optical member **18** from being damaged and allows reliable removal of dust or the like even when it adheres to the surface of the optical member **18**.

[**0075**] FIGS. **4**A to **4**D are views illustrating the variations of the optical member used for the semiconductor image sensing element **10** according to the present embodiment, of which FIG. **4**A is a cross-sectional view of the first variation of the optical member, FIG. **4**B is a cross-sectional view of the second variation of the optical member, FIG. **4**C is a cross-sectional view of the third variation of the optical member, and FIG. **4**D is a cross-sectional view of the fourth variation of the optical member.

[**0076**] In an optical member **25** according to the first variation of FIG. **4**A, the side surface region **25***a* thereof is configured to tilt with respect to a light receiving surface and a light shielding film **26** is formed on the tilted side surface region **25***a*.

[**0077**] In the optical member **25** according to the second variation of FIG. **4**B, the side surface region **25***a* thereof is configured to tilt with respect to the light receiving surface but the light shielding film **26** of FIG. **4**A is not provided thereon. Such a tilted configuration of the side surface region constitutes a light shielding pattern.

[**0078**] In an optical member **27** according to the third variation of FIG. **4**C, the side surface region **27***a* thereof is formed into a rough surface and a light shielding film **28** is further formed on the side surface region **27***a* formed into the rough surface.

[**0079**] In the optical member **27** according to the fourth variation of FIG. **4**D, the side surface region **27***a* thereof is formed into a rough surface but the light shielding film **28** of FIG. **4**C is not provided thereon. Such a rough surface configuration of the side surface region constitutes a light shielding pattern.

[**0080**] In the arrangement, the incidence of a reflected light beam or a scattered light beam from metal thin wires, bumps, a package, or the like on the image sensing area from the side surface region of the optical member can be more reliably prevented. As a result, a semiconductor image sensing element having more excellent properties can be obtained.